

I CLAIM:

1. A method for determining the current state of a lubricant which lubricates at least one pair of frictional coupling elements arranged to cooperate and transmit a torque when engaged, said pair of frictional coupling elements having reference slip characteristics associated with specific quality states of said lubricant, comprising determining current slip characteristics of said pair of frictional coupling elements, comparing said current slip characteristics to said reference slip characteristics and determining the current state of said lubricant from the results of said comparing.

2. The method as specified in claim 1 wherein said reference slip characteristics are known for selected values of operating conditions and wherein said current slip characteristics are compared to reference characteristics corresponding to the current operating conditions.

3. The method as specified in claim 2 wherein said operating conditions include torque transmission.

4. The method as specified in claim 2 wherein said operating conditions include temperature.

5. The method as specified in claim 2 wherein said operating conditions include force between said frictional coupling elements.

6. The method as specified in claim 1 wherein an improper quality state of the lubricant is signaled to a vehicle operator.

7. The method as specified in claim 1 wherein said determining current slip characteristics of said pair of frictional coupling elements comprises measuring the rotational speed of each coupling element of said pair of frictional coupling elements and determining current slip characteristics from the results of said measuring.

8. The method as specified in claim 1 wherein said comparing current slip characteristics to said reference slip characteristics is performed in a processor.

9. The method as specified in claim 8 wherein said reference slip characteristics are stored in a memory associated with said processor.

10. The method as specified in claim 1 wherein said determining the current state of said lubricant comprises generating a signal when the value of said current slip characteristics differs from a reference slip characteristic value by a predetermined amount.